Amendments In the Claims

Please replace paragraph **[0013]** with the following amended paragraph:

[0013] The data storage management system of host node 12 can allocate unused storage among memories 16(1) – 16(z) for storing the contents of a data volume. Figure 2 represents exemplary memory structures (memories) 20 – 26 allocated by host node 12 to store the primary data volumes V1 and V2 and several PIT copies thereof. More particularly, Figure 2 shows memories 20 and 24 for storing primary data volumes V1 and V2, respectively. Figure 2 also shows memories 22 and 26 for storing data volumes S1 and S2, respectively. As will be more fully described below, volumes S1 and S2 are PIT copies of primary data volumes V1 and V2, respectively. For ease of explanation, the present invention will be described with reference to the first hierarchy containing only the primary data volume V1 and PIT copy S1, and the second hierarchy containing only the primary data volume V2 and PIT copy S2, it being understood that the present invention should not be limited thereto. A data volume hierarchy may include any number of related data volumes. A hierarchy with a complex relationship between constituent volumes is exemplified in **pending** U.S. Application **No. 10/610,603** **[[_____ (Attorney Docket Number VRT0011US)]]** entitled Flexible Hierarchy Of Relationships And Operations In Data Volumes, which is incorporated herein by reference in its entirety.

Amendments In the Claims

1. (Currently Amended) A method comprising:

maintaining first and second data volumes, wherein the first data volume is unrelated to the second data volume;

preserving data of the second data volume; and

refreshing the second data volume to data of the first data volume so that the second data volume becomes a point-in-time (PIT) copy of the first data volume, wherein refreshing the second data volume comprises overwriting all data of the second data volume with data copied from the first data volume;

modifying data of the first data volume before any or all data of the second data volume is overwritten with data copied from the first data volume;

modifying data of the second data volume before any or all data of the second data volume is overwritten with data copied from the first data volume.

2. (Cancelled)

3. (Cancelled)

4. (Original) The method of claim 1 further comprising creating one or more PIT copies of the first data volume prior to refreshing the second data volume to the data contents of the first data volume.

5. (Previously Presented) The method of claim 4 wherein one of the PIT copies of the first data volume is in a virtual state when the second data volume is refreshed to the data of the first data volume.

6. (Previously Presented) The method of claim 1 wherein said preserving comprises creating one or more PIT copies of the second data volume prior to refreshing the second data volume to the data contents of the first data volume.

7. (Previously Presented) The method of claim 6 wherein one of the PIT copies of the second data volume is in the virtual state when the second data volume is refreshed to the data of the first data volume.

8. (Previously Presented) The method of claim 1 wherein the first data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data of the first data volume.

9. (Previously Presented) The method of claim 1 wherein the second data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data of the first data volume.

10. (Original) The method of claim 1 wherein refreshing the second data volume further comprises generating first and second maps in memory, wherein each of the first and second maps comprises a plurality of entries, wherein each entry of the first map corresponds to a respective memory block that stores data of the first data volume, and wherein each entry of the second map corresponds to a respective memory block that stores data of the second data volume.

11. (Previously Presented) The method of claim 10 wherein refreshing the second data volume further comprises:

setting a first bit in each entry of the first map, wherein each first bit of the first map is set to indicate its respective memory block stores valid data; and

clearing a first bit in each entry of the second map, wherein each first bit of the second map is set to indicate its respective memory block stores invalid data.

12. (Original) The method of claim 11 further comprising:

setting or clearing a second bit in each entry of the second map to indicate that its respective memory block stores data needed for a PIT copy of the second data volume.

13. (Previously Presented) The method of claim 1 wherein said preserving comprises creating a PIT copy of the second data volume before or while refreshing the second data volume to the data of the first data volume.

14. (Cancelled)

15. (Currently Amended) A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

preserving the data contents of the second volume[[, and]];

refreshing a second data volume to the data of a first data volume so that the second data volume becomes a PIT copy of the first data volume, wherein refreshing the second data volume comprises overwriting all data of the second data volume with data copied from the first data volume, and wherein the first data volume is unrelated to the second data volume prior to refreshing the second data volume to the data of the first data volume;

modifying data copied to the second data volume before any or all data of the second data volume is overwritten with data copied from the first data volume;

modifying data of the first data volume before any or all data of the second data volume is overwritten with data copied from the first data volume.

16. (Cancelled)

17. (Cancelled)

18. (Previously Presented) The computer readable medium of claim 15 wherein the method further comprises creating one or more PIT copies of the first data volume prior to refreshing the second data volume to the data of the first data volume.

19. (Previously Presented) The computer readable medium of claim 18 wherein one of the PIT copies of the first data volume is in the virtual state when the second data volume is refreshed to the data of the first data volume.

20. (Previously Presented) The computer readable medium of claim 15 wherein said preserving further comprises creating one or more PIT copies of the second data volume prior to refreshing the second data volume to the data of the first data volume.

21. (Previously Presented) The computer readable medium of claim 20 wherein one of the PIT copies of the second data volume is in the virtual state when the second data volume is refreshed to the data of the first data volume.

22. (Previously Presented) The computer readable medium of claim 15 wherein the first data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data of the first data volume.

23. (Currently Amended) The computer readable medium of claim ~~24~~ 15 wherein the second data volume is a real or virtual PIT copy of another data volume when the second data volume is refreshed to the data of the first data volume.

24. (Original) The computer readable medium of claim 15 wherein refreshing the second data volume further comprises generating first and second maps in memory, wherein each of the first and second maps comprises a plurality of entries, wherein each entry of the first map corresponds to a respective memory block that stores data of the first data volume, and wherein each entry of the second map corresponds to a respective memory block that stores data of the second data volume.

25. (Previously Presented) The computer readable medium of claim 24 wherein refreshing the second data volume further comprises:

clearing a first bit in each entry of the first map, wherein each first bit of the first map is set to indicate its respective memory block stores valid data; and

setting a first bit in each entry of the second map, wherein each first bit of the second map is set to indicate its respective memory block stores invalid data.

26. (Previously Presented) The computer readable medium of claim 15 wherein said preserving further comprises creating a PIT copy of the second data volume before or while refreshing the second data volume to the data of the first data volume.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)